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(54) INK JET HEAD AND ITS PRODUCTION

(57) Abstract:

PROBLEM TO BE SOLVED: To provide an ink jet head capable of performing high speed printing an having long life.

SOLUTION: An ink jet head 1 is constituted of a diaphragm 2, a nozzle plate 10, nozzles 11 and ink supply ports 12. The diaphragm 2 has piezoelectric members 6 and elastic members 4 and is deformed by the displacement of the piezoelectric member 6 to emit ink 16 from the nozzles 11. The Young's modules Y1 of the elastic members 4 is 150GPa \leq Y1 \leq 12250GPa and the Young's modules Y2 of the piezoelectric member 6 is 30GPa \leq Y2 \leq 170GPa. When the radius of the diaphragm 2 is set to r(m), the thickness of the elastic members 4 is set to t1(m) and the thickness of the piezoelectric members 6 is set to t2(m), $t_1 = D \cdot \pi \cdot Y_2^2$ (202D2200) and 0.2 \leq t1/t2 \leq 2.0.

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